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[From the New Orleans Medical and Surgical Journal, July, 1875.]

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(*Read before the New Orleans Medical and Surgical Association.*)

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T. C——, aged about 25 years, while in perfect health, was wounded on the 22d of April, 1874, by a pistol ball, which entered immediately above the left clavicle about ½ to ¾ of an inch from the sterno-clavicular articulation, and passed downwards and backwards, lodging under the skin just at the margin of the posterion border of the scapula, at a point corresponding to the origin of its spine. The wound was received at 8½ a. m. He walked about two squares to the office of Dr. Herrick, who first examined him, and, while undergoing the examination, he expectorated a small quantity of blood.

I was subsequently sent for, and visited him at his residence about 11 o'clock the same morning. I found him in a state of collapse, not due to the loss of blood, as the hæmorrhage had been trifling, but rather to general shock, somewhat increased and prolonged by intense pain, extending down the left arm and side, in consequence of injury to the brachial plexus, the arm being partially paralyzed. Opiates were duly administered, and in proper time reaction ensued. The next day he had some fever, with circumscribed pneumonia in the apex of the left lung, which soon subsided. The case progressed favorably, presenting nothing of particular interest, and I ceased visiting him at the end of two weeks.

Shortly after this he noticed a slight swelling over the clavicle, immediately opposite the cicatrice, to which he paid no attention until about the latter part of May, 1874, when its constantly increasing size, with other uncomfortable symptoms, excited his alarm, and he called at my office for advice.

Examination at once revealed an aneurismal tumor about the size of a guinea egg, and very much of its shape.

Thus, according to his statement, the aneurism manifested itself at a period between two and three weeks after the infliction of the wound. The course taken by the bullet, and the consequent *bruising* of the artery, is easily accounted for by taking into consideration the relative positions of the combatants when the shot was fired. The patient's opponent was on a platform a foot or two in height, and he (the patient) stood upon the pavement, with his left shoulder depressed to its utmost in the act of dodging, thus, to some extent, exposing the vessel in its convex portion, as it arched upwards and outwards from the aorta.

The case thus presented being of such magnitude, it required some days of careful reflection before absolutely determining upon the plan of treatment to be adopted. He was kept perfectly quiet and carefully watched. The tumor steadily increased, and it was not long before it became apparent that further delay would not answer. I then determined to attempt the occlusion of the sac by digital compression exerted on the distal side, where I found the artery could be controlled with the thumb pressing it against the first rib.

Realizing the absolute necessity of having compression made with the utmost skill and diligence, as there can be no doubt many of the numerous cases of failure by this method are due to neglect in this particular, I made every effort to secure a corps of assistants upon whose skill and faithful attendance I could implicitly rely. The following named gentlemen promptly and enthusiastically responded to my request, viz., Drs. Lœber, Czarnowski, Salomon, Dell'Orto, Schmittle, Nægle, Mainegra, LeMonnier, Hopkins, Mandeville, Durr, and Messrs. Faget and Dreyfus, resident students of the Charity Hospital. To their untiring zeal and well directed labor am I truly indebted for the result here related. To each and every one I extend my most sincere thanks.

I chose this means of procedure without any data to encourage

a hope of success, although Mr. Erichsen does mention that, if such a case were presented to him, he would first try distal compression. There was the difficulty of completely controlling the artery, as well as that of getting the patient to tolerate the requisite amount of pressure for a sufficient length of time—for, taking into view the currents of blood flowing through the vertebral, thyroid-axis and internal mammary arteries, all just bordering on the tumor, I deemed it necessary for success to thoroughly check any direct flow through the sac, hoping thus, in a measure, to counteract any adverse influence the circulation in these vessels might have upon the consolidation of the tumor. Had this have been upon the common carotid, I doubt if it would have been necessary, there being no branches from its origin to its bifurcation.

However, there being no danger attending the attempt except perhaps the very remote one of exciting inflammation in the sac, whereas the array offered by the statistics as to the results of the application of the ligature resembled grave-yard reports, we took courage, and determined to give him the full benefit of the doubt. My friend, Prof. Lœbei, visiting physician and surgeon to the Touro Infirmary, kindly proffered the necessary accommodations in that institution, and the work of compression was commenced on the 15th day of June, 1874. It was continued without interruption for 39 hours, when we were forced to desist, as the soft parts beneath had begun to slough, and the patient was so exhausted from pain and fatigue as to be unable to bear more. After carefully placing him in bed, it was found that the tumor had diminished to nearly one half its original size, and that, although distinct pulsation was felt, it was markedly feebler, and the density of the sac greatly increased. Perfect quietude was enjoined, and the result awaited with feverish impatience.

The pulsation still continued, but the tumor did not increase in size, or in any degree did that hardness, which followed compression, diminish, nor did the pain with which he had previously suffered return.

The case being of such general surgical interest, as well as involving so much to the patient, numerous consultations were invited, and the various operative measures freely discussed and advised.

Still, daunted by the unfavorable history appended to all such

operations, and, feeling satisfied, from the course the case had pursued since compression had been made, that a fibrinous nucleus had been established, I determined to build a hope upon this, and to postpone the consideration of any surgical interference. A strict surveillance was kept over the patient, and it was observed that the swelling and pulsation slowly diminished from month to month, proportionately increasing in density. About the middle of last March, all pulsation had ceased, and has not returned up to date.

The tumor is as hard as a marble and quite small.

The pulsation at the left wrist can be felt, but is very feeble—he is in good health, suffers no inconvenience whatever, and is gradually recovering the use of the left arm, which, until recently he has been forbidden to use but to a very limited extent, for fear of disturbing the aneurism.

Now, as to the practical bearing of the case:

I fully recognize the significance of the old adage that "one swallow does not make a summer," but I feel justified in saying that it could in no wise apply in this instance. I do not believe that by giving a full and unqualified share of credit to distal compression, I would be guilty of the too frequent error of substituting a coincidence for a fact. A reference to the history of the case, from the time of the appearance of the aneurism until the day compression was inaugurated, shows a rapid increase in the size of the tumor with all the accompanying disturbances, thus evidencing no tendency to spontaneous cure. And then following it on further we find the swelling materially diminished, its consistence increased, the pulsation much less, and the thrill scarcely audible after compression. Therefore, can I not safely state that the result obtained was due to pressure sufficiently exerted to completely check the direct flow through the vessel, until fibrinous layers were amply deposited, so as to present a satisfactory basis upon which nature built and finished the work? I have no doubt that we could have secured complete consolidation at the time if the soft parts could have borne the pressure longer, and the patient's powers of endurance stood the necessary tax. Ligature of the artery at the point where compression was made, in the third portion of the artery, might have been tried. I have only to refer to all well-established authorities on that

subject to create a comparison favorable to distal compression. Ligature of the proximal end in the first portion of the artery—a proceeding presenting very serious anatomical difficulties, and at all times dangerous—necessitating the taking up of the vertebral to avoid distal hæmorrhage, would have been under any circumstances worse than a forlorn hope. But, yet, granting that this fearful risk had been taken, and that the same success attended it, as did in the case of Dr. Smythe, where the innominate, common carotid and vertebral were successively tied for aneurism of the right sub-clavian of traumatic origin, the middle coat of the artery having been ruptured by a sudden violent extension of the shoulder, would not the experience recently gained in that very instance give us another favorable comparison? Dr. Smythe's patient lived, it is true, ten years after the operation, for which too much credit cannot be given the operator, but he died a short time ago of hæmorrhage proceeding from the original sac, which had become filled with blood poured into it by the collateral circulation, which had extraordinarily enlarged to supply the urgent demands of nature. No doubt, the Doctor will give the surgical world a detailed account of the termination of this interesting case, which now stands prominently on record. Compression successfully applied on the distal end is not, I should think, likely to be followed by this accident, for the thyroid axis will supply the arm, and there being not the same extra demand for blood as in the other method, the small collateral branches, which, under the dictates of nature, would enlarge in proportion to this demand, remain natural and should give no trouble. This seems to me to be a fair inference, and, as the patient resides here and can be kept under observation, I trust time and opportunity in the future will be granted to verify it.